

Office of Energy & Infrastructure
Bureau for Economic Growth, Education and Environment
2015 USAID Infrastructure Workshop
Built to Last: Strengthening the Sustainability and Resilience of USAID Infrastructure Projects
December 14-18, 2015
Academy Hall | 1825 Connecticut Ave. NW, 8th Floor | Washington, DC 20009

Monday, December 14

8:00 – 9:00 Sign-in and Registration

9:00 – 9:15 Welcome, Introductions and Housekeeping

Darren Manning, USAID/E3/E&I

9:15 – 9:30 Infrastructure and USAID: One Year After the Construction Assessment

Charles North, Senior Deputy Assistant Administrator, Bureau for Economic Growth, Education and Environment (E3), USAID

9:30 – 10:00 Planning for Change: Jordan's 10-year Infrastructure Development Vision

His Excellency Sami Jiries Halaseh, Minister of Public Works and Housing, Hashemite Kingdom of Jordan

10:00 – 10:30 Utility Commercialization in Afghanistan: A Private Sector Success Story

Donald "Larry" Sampler, Assistant to the Administrator in the Office of Afghanistan and Pakistan Affairs (OAPA), USAID

10:30 – 11:00 Coffee Break

11:00 – 12:25 Panel: Infrastructure Sustainability and Resilience

Charles North, His Excellency Sami Jiries Halaseh, Donald "Larry" Sampler and Steve Fisher, American Society of Civil Engineers

Keynote speakers will discuss lessons learned in infrastructure planning and development. Topics will include innovations in approach to achieve sustainability and resiliency in the face of global political, demographic, socioeconomic and environmental change.

Moderator: Michael Cain, Engility

12:25 - 12:30 Hard Hat Ceremony

12:30 – 1:30 Lunch

1:30 – 2:30 Panel: Engineering Risk Management

Panelists: James Peter, AECOM; Frank Dachille, Black & Veatch; David Strand, CH2M; William Haight, Louis Berger; Firouz Rooyani, Tetra Tech; Christopher Oot, CDM Smith; Angela O'Byrne, Perez; Greg Kolenovsky, Trigon.

Moderator: Bryan Pittman, USAID/E3/E&I

Representatives from leading U.S. Architecture and Engineering (A&E) Services companies will discuss critical success factors of infrastructure projects and innovative approaches to achieving success in international project implementation.

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2:30 - 3:30

Panel: Public Private Partnerships for Infrastructure

Panelists: Steve DeWitt, ACS Infrastructure Development, Inc.; Matthew Austin, USAID/E3/PCM; Chris Clement (TBC), U.S. Department of Transportation; TBD, Power Africa

Moderator: Nick Klissas

This panel will address the potential advantages as well as risks in forming public private partnerships for meeting infrastructure needs. The panel will address several different angles of PPPs, particularly focusing on transportation infrastructure which is vital for international trade and rural-urban connectivity.

3:30 – 4:00 Coffee Break

4:00 – 4:45

USAID Infrastructure Photo Competition Awards

Presentation of infrastructure photo competition entries and awards.

4:45 – 5:00

Wrap Up

5:00 – 7:00 Welcome Reception

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Tuesday, December 15

Morning Modules
9:00am – 12:30pm

Module 1: Programming Water and Sanitation Investments that Last

POC: Patricia Mantey, USAID/E3/W, pmantey@usaid.gov

This session will give participants an understanding of USAID's infrastructure portfolio related to WASH, including what is current, planned or changing. They will learn what approaches missions are using to overcome challenges around planning, designing and implementing sustainable WASH interventions. Participants will learn about approaches that USAID has developed to support sustainable WASH programming and who are some of the resource people in the WASH sector they can turn to for information or technical assistance. During a hands on activity, participants will work in small groups and create a concept for a sustainable WASH project, which they will pitch to the "Shark Tank" panel and group. Participants will then have a chance to decide which projects will get funding, and for how much.

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| 9:00 – 9:10 | Welcome and introduction by Chris Holmes, E3 DAA and Global Water Coordinator |
| 9:10 – 9:25 | Overview of USAID's WASH Infrastructure Portfolio
Jesse Shapiro, USAID/GH/EH |
| 9:25 – 9:50 | Presentation on Sustainability and Systems Thinking
Elizabeth Jordan, PhD, USAID/GH/EH |
| 9:50 – 10:10 | Examples of Sustainable WASH Programming
Jesse Shapiro, USAID/GH/EH |
| 10:10 – 10:30 | Group Activity: Planning a Sustainable WASH Project
Nathaniel Scott, USAID/E3/W |
| 10:30 – 11:00 | Coffee Break |
| 11:00 – 11:30 | Group Activity continues |
| 11:30 – 12:30 | Report Out: "Shark Tank" Activity Pitches, Group Discussion and Voting |

Module 2: Infrastructure in Feed the Future Programs

POC: Jacob Greenstein, USAID/E3/E&I, jgreenstein@usaid.gov

This session will provide an overview of infrastructure elements and issues critical to agricultural development programs and specifically the Feed the Future Initiative. In particular, the first presentation will explore design and optimization of farm-to-market roads with case studies from South Sudan and Honduras. The second presentation will provide an overview of centrally funded research projects to examine postharvest loss (PHL) reduction and then discuss the role of infrastructure in reducing PHL.

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9:00 – 9:45 Optimization of Farm-to-Market Roads

Eduardo Chirinos, USAID/Honduras and Jacob Greenstein, USAID/E3/E&I

9:45 - 10:30 Postharvest Loss Reduction in USAID's Feed the Future Initiative

John E. Bowman, USAID/BFS

10:30 – 11:00 Coffee Break

11:00 – 12:30 TBD

Module 3: Land Tenure Risks in Infrastructure Projects

POC: Tony Piaskowy, USAID/E3/Land, apiaskowy@usaid.gov

Land tenure risks are inherent in nearly all infrastructure activities and projects. Using an integrated legal, geospatial, and economic framework, this session will help participants identify these risks and understand best approaches and practices for securing land rights while ensuring sustainability of infrastructure investments (including social safeguards). Session format will be engaging and include a presentation with discussion, a small group case study, and an introduction to USAID resources.

9:00 – 10:30 Presentation: Risk Identification and Mitigation Tools

Presentation and discussion (moderated Q&A) of land tenure-related risks and analytical tools available to support mitigation.

Moderator: Caleb Stevens, E3/Land

Presenter: Darryl Vhugen, Consultant

Discussants: Ioana Bouvier, E3/Land and Sarah Lowery, E3/Land

10:30 – 11:00 Coffee Break

11:00 – 12:15 Activity: Case Study Analysis

Participants will break into small groups of 4-5 people to analyze an infrastructure investment opportunity in Africa. The groups will need to analyze the potential land tenure risks and propose solutions for addressing the issues present. Each group will have access to a computer to critically examine key project and risk variables and discuss the strengths and weaknesses of this hypothetical project design. Groups will then present their analysis and solutions to the larger group.

12:15 – 12:30 Presentation: Agency Resources and Wrap-Up

12:30 – 1:30 Lunch

Afternoon Modules

1:30pm – 5:00pm

Module 4: Building a Safer World: Preventing Gender-Based Violence in USAID Infrastructure Projects

POC: Nancy Martin, USAID/E3/GenDev nmartin@usaid.gov

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December 14-18, 2015

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This interactive training session will introduce the topic of gender-based violence (GBV) as it relates to infrastructure projects. The session will combine experiential learning to understand the problem of GBV, an introduction to the new toolkit on preventing and responding to GBV in energy & infrastructure projects, and interactive exercises to practice applying this knowledge.

- 1:30 – 2:00** **Introductory Exercise: Understanding Gender-based Violence**
Facilitator: Nancy Martin
- 2:00 – 3:00** **Group Activity: GBV & Infrastructure 101 -- Best Response Game**
Facilitator: Nancy Martin
- 3:00 – 3:30** Coffee Break
- 3:30 – 4:00** **Panel Discussion**
Panelists: Lis Meyers, Gender Specialist, Banyan Global; Jacob Greenstein, USAID/E3/E&I; ____; Cardno
Moderator: to be determined
- 4:00 – 5:00** **Jigsaw Learning Activity: Using the Toolkit**
Facilitator: Nancy Martin

Module 5: Sustainable Energy In Pakistan and Afghanistan

POC: Tim Moore, USAID/Pakistan

The Energy Office in Pakistan will present on USAID Pakistan's \$200*million Clean Energy initiative to “*Increase Sustainable Energy Supplied to Pakistan's Economy*” by: implementing technical assistance in generation, transmission, and distribution, and governance and policy reform; offering development credit; funding government-to-government multi-purpose hydro-power dam infrastructure. We hope to leverage our \$200 million against the private sector investor's coffers to the tune of \$1.0-1.5 billion with using mechanisms like DCA; Public-Private Partnerships; and Business-to-Business agreements, to name a few.

- 1:30 – 2:00** **USAID/Pakistan's Energy Program: Past, Present and Future**
Tim Moore, USAID/Pakistan
- 2:00 - 2:30** **Pakistan's Hydro Initiatives**
Tim Moore, USAID/Pakistan
- 2:30 – 3:00** **Clean Energy Solutions**
Imran Ahmed, USAID/Pakistan
- 3:00 – 3:30** Coffee Break

POC: Jeffrey Kauffman, USAID/Afghanistan

This session will discuss the development of an innovative 10 year Power Purchase Delivery Agreement (PPDA) between the Afghanistan Ministry of Defense and Interior and DABs, the National Utility Company and leveraging of \$200 million from the NATO Afghan Security Forces Trust Fund to help complete the major Electrical Transmission Activity in Northern Afghanistan.

- 3:30 – 4:15** **Afghanistan: Overview of Energy and Power Transmission**
Jeff Kaufman, USAID/Afghanistan
- 4:15 – 5:00** **Development Opportunity: Leveraging and Interagency Solution for Electricity Access**
Jeff Kaufman, USAID/Afghanistan

Module 6: Politically-Informed Methods for Greater Sustainability in Engineering and Infrastructure

POC: Chris Demers USAID/DCHA/DRG

2015 USAID Infrastructure Workshop
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December 14-18, 2015

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Over the past two years, DCHA/DRG and PPL have been advancing a “thinking and working politically” agenda to help USAID Officers deliver more politically informed, and as a result more sustainable projects. These methods help to address the ever present concern that “political will” will interfere with project success. Thinking and working politically is more than carrying out PEA, it is mindset where the political economy affecting our projects and development goals is a calculation throughout the program cycle, and where activities are carried out in a manner that adapts to changing political economy. This work has culminated in USAID having an in-house applied Political Economy Assessment (PEA) tool.

A Political Economy Assessment (PEA) is a field-research methodology used by donors to explore not simply how things happen in an aid-recipient country but why. It results in a written assessment with recommendations for project design. It is a ‘tool’ that emerged in the early 1990s and has been modified in the last decade to improve aid effectiveness and the sustainability of programs. It is particularly concerned with how power is used to manage resources and, as such, is especially valuable for exploring a ‘lack of political will’, which is often blamed for undermining reform and hindering progress.

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| 1:30 – 2:30 | Review of USAID’s Thinking and Working Politically (TWP) Agenda
Chris Demers, USAID/DCHA/DRG; Sarah Swift, USAID/DCHA/DRG |
| 2:30 - 3:00 | Lessons Learned from TWP in Engineering and Infrastructure
Chris Demers, USAID/DCHA/DRG; Sarah Swift, USAID/DCHA/DRG |
| 3:00 – 3:30 | Coffee Break |
| 3:30 – 5:00 | PEA Exercise and Discussion on Thinking and Working Politically
Chris Demers, USAID/DCHA/DRG; Sarah Swift, USAID/DCHA/DRG |

Wednesday, December 16

Morning Modules
9:00am – 12:30pm

Module 7: Environmental Compliance for Large Infrastructure

POC: Andrei Barannik, USAID/SCA & OAPA

The purpose of this session is to provide an overview of and distill lessons learned from mandatory 22 CFR 216 environmental compliance and associated costs on USAID-funded infrastructure projects implemented in high threat environments. As an “umbrella analytical process,” 22 CFR 216 provided excellent opportunities to ensure compliance with other mandatory Agency and host governments’ policies, including an integration of climate change, biodiversity, construction, water and gender, as well as helped to achieve intended benefits and ensure sustainability.

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| 9:00 – 9:20 | Overview of 22 CFR 216 Environmental Compliance Process
Andrei Barannik, USAID/REA-SCA & OAPA; Victor Bullen, USAID/BEO-LAC; Will Gibson, USAID/BEO-Asia |
| 9:20 – 9:50 | Environmental Assessment for Kurram Tangi Dam Project in FATA, Pakistan
Imran Ahmed, USAID/Pakistan |
| 9:50 – 10:20 | Construction of Education Complexes at Ten Universities – Environmental Overview, Pakistan
Howard Batson, USAID/Pakistan |
| 10:20 - 10:30 | Q & A |
| 10:30 – 11:00 | Coffee Break |

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2015 USAID Infrastructure Workshop
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- 11:00 – 11:30** **Assistance in Building Afghanistan by Development Enterprises, Afghanistan**
Richard Paul McKee, USAID/Afghanistan
- 11:30 – 12:00** **Bangladesh Agriculture Infrastructure Development Program: It's More Than Just a Building Program,**
Mitchell Nelson, USAID/Bangladesh; Jeff de Graffenried USAID/Bangladesh
- 12:00 - 12:30** **Q & A**

Module 8: Increasing Sustainability of Vertical and Horizontal Structures in Pakistan

POC: Zaki Saad, USAID/Pakistan zsaad@usaid.gov

Improving Education quality through sustainable infrastructure. Multiple presentations will be given to highlight the importance of increasing education facilities needed to absorb the flux of students. The presentations will highlight the features used in these education facilities to increase sustainability and reduce maintenance cost. We will also touch on our process of using the 611 (e) to ensure sustainability of the proposed project as detailed in ADS 221.3.1.7

- 9:00 – 9:45** **Introduction to USAID/Pakistan Office of Infrastructure and Energy**
Zaki Saad, USAID/Pakistan
- 9:45 – 10:30** **University Infrastructure**
Mohammad Ishtiaq, USAID/Pakistan
- 10:30 – 11:00** Coffee Break
- 11:00 – 11:45** **Hope Tower (Women's Hostel)**
Anwar Afridi, USAID/Pakistan
- 11:45 – 12:30** **Major Roads for Economic Growth and Trade Connectivity**
Zaki Saad, USAID/Pakistan

Module 9: Using Cost-Benefit Analysis to Inform Infrastructure Solutions

POC: Sarah Lane, USAID/E3/EP slane@usaid.gov; Caroline Smith, USAID/E3/EP carsmith@usaid.gov

This session will discuss how financial and economic analysis (cost-benefit analysis) can contribute to the design of sustainable and resilient infrastructure projects. The session will look at one or more case studies based on USAID-supported infrastructure programs. Practical exercises based on USAID projects will allow participants, distributed in groups of 3-5, to model different project alternatives to an infrastructure project, such as scenario modeling for a bridge at risk of flooding, and learn about important concepts such as willingness to pay and pricing water for project financial sustainability. Each group of participants will have support from one of the trainers during these exercises.

- 9:00 – 9:30** **Overview: Cost-Benefit Analysis of Infrastructure Programs**
Caroline Smith, USAID/E3/EP
What is Cost-Benefit Analysis (CBA)? How can this tool help answer critical questions about sustainability, viability, and stakeholder incentives? What are the risk variables and how do we mitigate them?
- 9:30 – 10:20** **Fundamentals of Sensitivity and Risk Analysis**
Sarah Lane, USAID/E3/EP
How can CBA model risk? What are the different kinds of risk and uncertainty? This presentation will consider how to conduct basic sensitivity analysis and more advanced Monte Carlo simulations.

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2015 USAID Infrastructure Workshop
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December 14-18, 2015

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- 10:20 – 10:30** **Introduction to the CBA Case Study**
Sarah Lane and Caroline Smith, USAID/E3/EP
- 10:30 – 11:00** Coffee Break
- 11:00 – 12:15** **Activity: CBA Case Study Analysis**
Participants will break into small groups of 4-5 people to analyze a CBA of rebuilding a bridge after a hurricane. In this case, the groups will need to determine which type of bridge to build based on the probability of a large storm washing it out. Each group will have access to a computer to critically examine key project and risk variables and discuss the strengths and weaknesses of this hypothetical project design.
- 12:15 – 12:30** **Case Study Report Out**
General discussion about the key design features and trade-offs of the case study.

12:30 – 1:30 Lunch

Afternoon Modules
1:30pm – 5:00pm

Module 10: Power Africa

POC: William Butterfield, USAID/Ethiopia wbutterfield@usaid.gov

This session covers basic power infrastructure both on-grid and off-grid in Sub-Saharan Africa, sustainability issues, and Power Africa support. Participants will learn about the critical issues surrounding private investment in energy in the region and what Power Africa is doing to help overcome political, legal, regulatory, knowledge, and capacity based constraints, with Ethiopia as a case study. Participants will also learn the basics of on-grid and off-grid renewable electricity and how environmental and financial sustainability can be increased.

- 1:30 – 3:00** **Overview of the Power Africa Transaction Model: On-Grid Renewable Energy & Legal and Regulatory Reforms**
- Case Study on the Corbetti Geothermal Project - Amy Beeler, USAID Power Africa
 - Geothermal Legal Reforms and Capacity Building - Andrew Palmateer, USEA East Africa Geothermal Partnership
 - Developing a Project Implementation Unit, Gene Lin, USAID/Ethiopia
 - Tariff Reform: The Regulatory Process, NARUC
 - Utility Strengthening & Renewable Energy Integration, USEA Utility Partnership
- 3:00 – 3:30** Coffee Break
- 3:30 – 5:00** **Beyond the Grid: Unleashing the Private Sector for Distributed Generation and Access**
- Power Africa Beyond the Grid - Maria Hilda Rivera, USAID Power Africa
 - Off-Grid and Mini-Grid in Africa and Around the Globe - UN Foundation
 - USTDA early stage transaction support
 - USAID DCA Loan Guarantees for off-grid and mini-grid applications
 - OPIC Clean Energy Investments

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Module 11: Sustainable Transportation Infrastructure

POC: Jacob Greenstein, USAID/E3/E&I jgreenstein@usaid.gov

- 1:30 – 2:15** **Best Practices of Road Project Planning and Implementation**
Jacob Greenstein, USAID/E3/E&I
Best practices of roads investment and maintenance projects, considering gender, climate changes, road safety, risk sharing procedures, environmental mitigation and development effectiveness challenges in design, construction and maintenance works of roads and bridges.
- 2:15 – 3:00** **Public-Private Partnerships for Transportation Infrastructure Development**
Mauricio Gutierrez, Chemonics
PPPs for transport/roads development is a key development tool to address the issue of lack of the ongoing lack of basic infrastructure which is a major constraining for economic growth and poverty alleviation in the developing world. The presentation show how using PPP could support mobilizing private capital needed to accelerate the implementation of roads and port projects, support the provision and long terms of operation and maintenance, increase efficiency of the execution of infrastructure projects and enhance the technical and institutional capacity of government agencies to effectively conduct the entire project life cycle.
- 3:00 – 3:30** Coffee Break
- 3:30 – 4:15** **Planning and Implementation of Public Transport Systems: Perspectives of Impacts of Intelligent Transport Systems**
Carlos Hernan Mojica, Inter-American Development Bank
Latin America and the Caribbean (LAC) is the most urbanized region in the developing world with 470 million of people in 2010, 133 LAC cities with population over 500,000 and 51 LAC cities with population over 1 million. Intelligent Transport Systems (ITS) are shown as an efficient solution to improve mobility, safety and environmental problems, with relatively low investment.
- 4:15 – 5:00** **Port PPP Concession: Terminal Operators and Navigating the Fog of Tariff Terms**
Paul E. Kent, PhD, Senior V.P./Global Advisor, Ports and Infrastructure, Nathan Associates, Inc.

Module 12: Adapting Infrastructure to Climate Change

POC: Danielle Miley, USAID/E3/GCC dmiley@usaid.gov; Jenny Kane, USAID/E3/GCC jkane@usaid.gov

Climate change poses risks to infrastructure and development; and infrastructure planning and design can contribute to climate change adaptation. This session will provide participants with an understanding of USAID's infrastructure and adaptation portfolio and the role that infrastructure plays in reducing climate change risk. A panel will feature real world examples that highlight the role of gray and green infrastructure in mitigating flood risk and strengthening communities, as well as how climate information can be used to improve infrastructure design. The session will also provide a forum for workshop attendees to weigh in on what climate risk management should look like for USAID projects and activities with infrastructure components in light of a new mandatory requirement starting in FY17 per Executive Order (EO) 13677 on Climate-Resilient International Development.

- 1:30 – 2:00** **Overview of Infrastructure in USAID's Global Climate Change Adaptation Portfolio**
Danielle Miley, USAID/E3/GCC
This will provide an overview of USAID's ongoing field-based and Washington-funded projects that directly address the role of infrastructure in climate change adaptation. The presentation will cover project examples in Mozambique, Dominican Republic, Philippines, Pacific Islands, and Maldives with infrastructure activities relating to water security, sanitation, urban planning, and shoreline protection.
- 2:00 – 3:00** **Panel: The Role of Infrastructure in Mitigating Flood Risk and Strengthening Communities**
Anita Van Breda, World Wildlife Fund: Disaster Response and Risk Reduction / Mahabub Zaman, USAID/Bangladesh / Byron Stigge, Level Agency for Infrastructure

2015 USAID Infrastructure Workshop
Built to Last: Strengthening the Sustainability and Resilience of USAID Infrastructure Projects
December 14-18, 2015

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Panelists will deliver short presentations followed by a larger discussion with participants. Anita Van Breda will discuss the *Flood Risk Management: Guidelines for Natural and Nature-based Techniques* (Guidelines) developed by WWF in partnership with USAID's Office of Foreign Disaster Assistance to support local communities' flood management efforts. Mahabub Zaman of USAID/Bangladesh will discuss the Multi-purpose Cyclone Shelter Project and how climate change risks and community resilience were considered in their design. Byron Stigge will present the New York City Hurricane Sandy case study and lessons learned for a community-driven participatory process, as well as the use of design criteria for making infrastructure more resilient to climate change impacts.

3:00 – 3:30 Coffee Break

3:30 – 5:00 **Consultation: Climate Change Risk Management of USAID Programming with Infrastructure Components**
Becky Chacko, USAID/E3/GCC, Danielle Miley, USAID/E3/GCC, Jesse Gutierrez, USAID/E3/E&I
Through a hands-on group exercise, participants will learn about and apply new FY17 requirements for infrastructure under Executive Order (EO) 13677 on Climate-Resilient International Development. Participants will choose from one of three case studies – a village level water supply and sanitation project, road construction for a Feed the Future project, or a hospital construction for a health project – and work in small groups to apply climate risk management guidance to project design. Discussion will include consideration of aligning construction and climate risk management approaches and integration of climate information into infrastructure design criteria. Participants will have the unique opportunity to inform Agency guidance for EO implementation for infrastructure projects.

Thursday, December 17

Morning Modules
9:00am – 12:30pm

Module 13: Considering Sustainability in the Energy Sector

POC: Monica Bansal, USAID/E3/E&I mbansal@usaid.gov

USAID's energy programs are diverse, with different scales, stakeholders, and desired outcomes, and thus must consider and address different elements of sustainability. The energy modules will focus on how the technical approach to achieve sustainability might vary and how certain types of sustainability are foundational to achieve broader energy-related outcomes. The day-long session will be broken out along two broad sustainability categories: project/business sustainability and environment and economic sustainability. The first half of the day will focus on sustainability of (1) USAID energy projects using the findings of a major evaluation effort currently underway to determine the factors affecting sustainability across 10 years of USAID support in the decentralized energy space; (2) clean energy businesses, with a focus on small-scale, decentralized energy services; and (3) utility commercialization, with a focus on the sustainability of large grid systems and how the sustainability of the utility impacts generation and energy access goals, among others.

9:00 – 9:15 **Introduction to USAID Energy Programs**
Jeffrey Haeni, USAID/E3/E&I

9:15 – 10:00 **Sustainability of USAID Decentralized Energy Projects**
Dr. Hisham Zerriffi, University of British Columbia
Results of a recently completed portfolio review of the last 10 years of USAID's decentralized energy projects.

10:00 – 10:30 **Sustainability of Clean Energy Businesses: Powering Agriculture Energy Grand Challenge**
Ryan Shelby, USAID/E3/E&I

2015 USAID Infrastructure Workshop
Built to Last: Strengthening the Sustainability and Resilience of USAID Infrastructure Projects
December 14-18, 2015

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This session will discuss transaction advisory services and financial instruments that can be used to support the commercialization and scaling of clean energy systems within the energy/ag nexus. Using the case study of the Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) initiative, we will focus on acceleration programs, financial instruments & models that are used to support PAEGC's 24 innovators.

10:30 – 11:00 Coffee Break

11:00 – 11:30 Best Practices for Developing Private Power Generation Projects

Adrian Rouse, Deloitte

A successful Independent Power Producer (Program) can expand electricity supplies for developing countries while providing investors with a fair return on their investment and encourage future private investment. Drawing from previous experiences with IPP programs - both successes and failures - this session will explore the necessary factors for effectively designing, negotiating and implementing an IPP.

11:30 – 12:30 Sustainable Utility Operations: Case Study of the Haiti - Caracol Industrial Park utility

Simone Lawaetz, USAID/E3/E&I

Jeremy Foster, USAID/E3/E&I

This session will discuss the factors affecting the sustainability of electric utility operations. Using the case of a small mini-utility in the north of Haiti, participants will learn of how a utility's financial and operational performance can be impacted by oil prices, tariff setting, and losses, as well as approaches for addressing theft and "regularizing" illegal customers.

Module 14: Impacting Health through Infrastructure (Part I)

POC: John R. Pasch, USAID/E3/E&I, jpasch@usaid.gov

Country case-study presentations from on-going USAID health infrastructure projects, identifying issues and lessons learned in initiating and adapting projects and programs within challenging environments. The case studies are followed by a facilitated panel discussion involving case study presenters and infrastructure specialists.

9:00 – 9:15 Overview and Introductions

John Pasch, USAID/E3/E&I/EU; John Gavin, CDM Smith

Participant introductions, module outline and key issues in Health Infrastructure.

9:15 – 9:50 Case Study: Mozambique

Bryan Enslein, USAID/E3/E&I/EU

9:50 – 10:30 Case Study: Haiti

Manish Kumar, USAID/Haiti; Josue Noel, USAID/Haiti

10:30 – 11:00 Coffee Break

11:00 – 11:35 Case Study: Ethiopia

Esther Obonyo, USAID/LAB/DAR; Andrew Hable USAID/Ethiopia

11:35 – 12:20 Panel Discussion

Panelists include case study presenters and infrastructure specialists. Key issues and themes from the module will be captured.

12:20 – 12:30 Summary and wrap-up of morning module

Module 15: Sustainability Innovations in Middle East Infrastructure Programs

POC: Kamal Ouda, kouda@usaid.gov

This module is a joint effort between USAID/Jordan and the Middle East Bureau, Office of Technical Support. Participants will have a chance to explore the intersection of infrastructure development and of host country engagement to drive impact. Participants will

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2015 USAID Infrastructure Workshop
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December 14-18, 2015

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also receive an introduction to the science, technology and partnership approach to empower local solutions and answer to the threats of global climate change in the water sector.

- 9:00 – 9:45** **Schools of the 21st Century: Designs for a Knowledge Economy**
Issam Omar, USAID/Jordan, Maggie Northman, USAID/Jordan
Jordan faces numerous challenges as it struggles to improve and transform Jordan's education system. The Public schools in Jordan are on generally old and suffer from severe overcrowding due to the high population growth rate and the influx of refugees from neighboring countries. In 2002, Jordan launched the Education Reforms for Knowledge Economy initiative that aimed to transfer Jordan education system to meet the requirements of the 21st century. USAID support focuses on helping Jordan to achieve the reforms vision through constructing schools that provide spaces and tools for teachers and students to shift from instruction to learning and from teacher centered to student centered learning with emphasis on engaging the local communities in the schools.
- 9:45 – 10:30** **Can a Good Idea Be a Bad Solution?**
Bader Kassab, USAID/Jordan
The problem of wastewater collection and treatment in small communities is one of the main challenges in Jordan in order to protect the environment and reduce pollution. The USAID funded project "Wastewater Treatment Facilities for Small Communities in Jordan" was designed to target this problem. The project goal was to provide low cost/low maintenance solutions to the wastewater problem in small rural communities. The presentation will provide the audience with information about that experience and the lessons learned.
- 10:30 – 11:00** Coffee Break
- 11:00 – 11:45** **Challenges in Implementing Infrastructure Projects: West Bank and Gaza**
Rami Abu Ktaish, USAID/West Bank & Gaza
An overview of (1) type of infrastructure work the West Bank and Gaza mission implements in the West Bank and Gaza, (2) The challenges of implementing infrastructure projects in the West Bank and Gaza, (3) The security and political environment and their effect on the infrastructure project implementation.
- 11:45 – 12:30** **Regional Water Security Programs for a Climate Resilient Middle East**
Kamal Ouda, USAID/ME/TS, Suzanne Ebert, USAID/MERP/TS, Alexandra Hadzi-Vidanovic, USAID/MERP/TS
Water overuse is one of the greatest risks for human well-being and prosperity. Learn about the science, technology and partnership approach to empower local solutions and answer to the threats of global climate change in the water sector. Also, learn about the overarching goal of improving sustainable, long-term access to water for people living in the Middle East.

12:30 – 1:30 Lunch

Afternoon Modules
1:30pm – 5:00pm

Module 16: Environment, Economics, and Energy: A Utility Perspective

POC: Monica Bansal, USAID/E3/E&I mbansal@usaid.gov

This module will focus on environmental and economic sustainability, primarily through the lens of how utility business models are adapting to absorb and attract increasing amounts of grid-connected renewable energy. The modules will be split up into phases or aspects of implementation: planning (integrated resource planning and grid integration of variable renewable energy), economic valuation and regulatory issues for grid-connected rooftop solar, and competitive procurement of renewable energy to ensure transparency and lowest tariff.

Office of Energy & Infrastructure
Bureau for Economic Growth, Education and Environment

2015 USAID Infrastructure Workshop
Built to Last: Strengthening the Sustainability and Resilience of USAID Infrastructure Projects
December 14-18, 2015

Academy Hall | 1825 Connecticut Ave. NW, 8th Floor | Washington, DC 20009

- 1:30 – 2:15** **Incorporating Renewable Energy Efficiency in Utility Planning: Integrated Resource and Resilience Plan in Tanzania and Ghana**
Maria Scheller, ICF International
A technical overview of the IRRP process, including discussion of how demand side management, renewable energy, distributed generation, and resilience are incorporated into energy and economic modeling to develop a power sector master plan that can prioritize least cost, GHG emission reduction, and other priorities, as determined by stakeholders.
- 2:15 – 3:00** **Greening the Grid: Integrating High Penetration Variable Renewable Energy into the Grid**
Jennifer Leisch, USAID/E3/GCC (Tentative: USAID/India and USAID/Philippines)
Review the challenges to integrating significant quantities of variable renewable energy to the grid, and explore the emerging solutions that policy makers, regulators, and grid operators have taken to integrate wind and solar and meet renewable energy targets. Learn about the myths, misperceptions, costs and options for scaling up grid-connected renewable energy. This session will introduce the new Greening the Grid toolkit, technical assistance opportunities, and USAID grid integration pilots in India and Philippines.
- 3:00-3:30** **Coffee Break**
- 3:30 – 4:05** **Integrating Distributed Renewable Energy Generation into the Grid: Creating the Right Regulatory Framework for Grid-connected Rooftop PV**
Jeffrey Haeni, USAID/E3/E&I
Solar PV is projected to account for the single largest capacity addition globally of any technology by 2030 with rooftop PV comprising over 50% of installed capacity. Rooftop PV offers many benefits and challenges, and creating the right regulatory environment is critical for successful deployment. This presentation will examine many of the global best practices regarding incentive frameworks for rooftop PV.
- 4:05 – 5:00** **Using Competitive Procurement to Scale-up Generation of Renewable Energy**
Monica Bansal, USAID/E3/E&I, TBD, USAID/Afghanistan, Ignacio Rodriguez, Tetra Tech
The why, where, and how of competitive RE procurement (5 minutes), Overview of reverse auction in Afghanistan (30 minutes), Overview of Renewable Energy Auctions in El Salvador and Mexico (25 minutes)

Module 17: Impacting Health through Infrastructure (Part II)

POC: John R. Pasch, USAID/E3/E&I jpasch@usaid.gov

This module focuses on tool and guide sheet development through a series of interactive sessions where participants themselves provide direction on the development of tools, prioritize topic areas and develop guide sheets.

- 1:30 – 1:45** **Overview and introductions**
John Pasch, USAID/E3/E&I/EU; John Gavin, CDM Smith
Participant introductions, recap of morning module, overview of module activities
- 1:45 – 3:00** **Activity: Development of Health Infrastructure Guidesheets**
Facilitated by Ed Galindo, CDM Smith
A number of challenges associated with health infrastructure is lack of knowledge/expertise of infrastructure program and implementation requirements, e.g. planning and phasing requirements. This session will involve a short facilitated session identifying key information topics, prioritizing them and then breaking into small groups to draft guide sheets on each topic to be presented in the large group for feedback/refinement.
- 3:00 – 3:30** **Coffee Break**
- 3:30 - 4:00** **Health Infrastructure Construction Guidebook Development**
Mike Gould, CDM Smith
A presentation of a guidebook draft outline meant to support USAID mission personnel involved in health infrastructure, identifying key features/requirements of different contracting mechanisms, along with specific

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features for improved health facilities. The outline presentation will be followed by a feedback session from participants to validate or revise outline for further development.

4:00 – 4:20 **Summary and wrap-up of afternoon module**
John Pasch, USAID/E3/E&I/EU; John Gavin, CDM Smith
Key issues and themes from module are captured.

Module 18: Sustainable and Resilient Cities

POC: Nancy Leahy Martin, USAID/E3/E&I namartin@usaid.gov

Well-planned, sustainable and resource-efficient cities contribute to the resiliency of local populations affected by severe storms, climate shocks and natural disasters. Unplanned and poorly managed cities, by contrast, increase a country's vulnerability, with the growing urban population ill-equipped to respond to these challenges. Participants will consider resiliency and sustainability from an urban perspective, and learn about ways they can help local officials in host countries improve their cities. From simple and cost-effective interventions like rain gardens, white roofs and energy efficient building rating systems, to policy tools like zoning and vulnerability mapping, various interventions will be explored. Participants will learn about specific USAID programs that focus on cities, and will work on an interactive exercise that will pull from session themes.

1:30 – 2:00 **Overview of USAID Urban Programs, USAID's Urban Policy, SDG #11, and Featured Innovators Series**
Participants will learn about E3's Urban Team, the USAID Urban Policy, the new Sustainable Development Goal focused on cities, and some new urban innovations from the newly launched CityLinks Featured Innovators Series (and how to learn more).

- Nancy Leahy Martin, USAID/E3/EI/Engineering and Urban
- Jeff Szuchman, USAID/PPL/Policy
- Jessica Johnston, ICMA

2:00 – 3:00 **Panel: How to Improve Urban Sustainability and Resilience**
Resilience is defined as the ability to quickly recover from a shock or disaster, and sustainability is defined as development which meets the needs of current generations without compromising the ability of future generations to meet their own needs. What do these concepts mean from an urban angle? What are the threats that cities face, how do cities contribute to them, and how can cities respond? Panelists will discuss their respective programs and how they help cities create a more sustainable and/or resilient future.

- Low Carbon Livable Cities (Stephen Hammer, World Bank)
- The Neighborhoods Approach (Chuck Setchell, USAID/OFDA)
- EDGE Green Building Certification (Corinne Figueredo, IFC)

3:00 – 3:30 Coffee Break

3:30 – 4:20 **Panel: USAID Innovation in Urban Programs**
USAID is increasingly investing in urban areas to support sustainable cities and improve their resilience to various threats and challenges. This panel will feature an overview of several USAID programs around the world. Participants will learn about the goals behind these programs, their accomplishments, and lessons learned.

- USAID/Philippines (John Avila, USAID)
- USAID/Colombia (Carolina Figueroa, USAID via Skype)
- USAID/Mozambique (Carlos Quintela, Chemonics)
- USAID/Dominican Republic (Montserrat Acosta, USAID via Skype)

4:20 – 4:50 **Disaster Resilience Scorecard—Interactive Exercise**
- Allan Klindworth, AECOM
- Aaron Weieneth, AECOM

Office of Energy & Infrastructure
Bureau for Economic Growth, Education and Environment
2015 USAID Infrastructure Workshop
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December 14-18, 2015

Academy Hall | 1825 Connecticut Ave. NW, 8th Floor | Washington, DC 20009
4:50 – 5:00 **Wrap-Up**

Friday, December 18

Plenary Summary
9:00am – 12:30pm

9:00 – 9:30 **Workshop Themes and Main Findings**

9:30 – 10:15 **Panel: Discussion of Key Lessons for Infrastructure Sustainability and Resilience**
Moderator, Michael Cain, Engility

10:15 – 10:45 **Coffee Break**

10:45 – 11:45 **Panel: Back to Work Plan: What Will Be Different in 2016?**
Moderator: John R. Pasch, USAID

11:45 – 12:30 Graduation Ceremony
Closing Remarks, Diplomas and Evaluations

12:30 – 1:30 Lunch